CLAIMS:

1. A communication network control method for a synchronous communication network including a hub and a plurality of user nodes that communicate with the hub via a satellite, said method comprising steps of:

transmitting a first plurality of symbols in a frame from the hub to a first user node of the plurality of user nodes using a first modulation and a first forward error correction; and

transmitting a second plurality of symbols in the frame from the hub to a second user node in the plurality of user nodes using a second modulation and a second forward error correction.

2. The method of claim 1, wherein a bit error rate of the second symbols in a fading environmental condition is lower than a bit error rate of the first symbols in a fading environmental condition.

3. The method of claim 1, wherein a degree of constellation rotation for the first symbols is equal to a degree of constellation rotation for the second symbols.

4. The method of claim 1, wherein a number of modulated symbols in the first forward error correction is equal to a number of modulated symbols in the second forward error correction.

5. The method of claim 4, further comprising a step of:

selecting a size of a communication protocol link layer data packet for transmitting the first plurality of symbols in the frame from the hub to the first user node in the plurality of user nodes,

wherein the size of the communication protocol link layer data packet does not depend on the number of modulated symbols in the first forward error correction.

6. The method of claim 1, wherein the first modulation comprises a Quadrature Phase Shift Keying and the second modulation comprises a Bi-Phase Shift Keying.

7. A synchronous communication system, comprising:

a hub;

a transponder configured to be hosted on a satellite; and

a plurality of user nodes that communicate with the hub via the transponder, said hub being configured to

transmit a first plurality of symbols in a frame to a first user node in the plurality of user nodes using a first modulation and a first forward error correction; and

transmit a second plurality of symbols in the frame from the hub to a second user node in the plurality of user nodes using a second modulation and a second forward error correction.

8. The system of claim 7, wherein a bit error rate of the second symbols in a fading environmental condition is lower than a bit error rate of the first symbols in a fading environmental condition.

9. The system of claim 7, wherein a degree of constellation rotation for the first symbols is equal to a degree of constellation rotation for the second symbols.

10. The system of claim 9, wherein a number of modulated symbols in the first forward error correction is equal to a number of modulated symbols in the second forward error correction.

11. The system of claim 10, wherein said hub is further configured to select a size of a communication protocol link layer data packet for transmitting the first plurality of symbols in the frame from the hub to the first user node in the plurality of user nodes,

wherein the size of the communication protocol link layer data packet does not depend on the number of modulated symbols in the first forward error correction.

12. The system of claim 7, wherein the first modulation comprises a Quadrature Phase Shift Keying and the second modulation comprises a Bi-Phase Shift Keying.

13. A hub in a synchronous communication network that includes a plurality of user nodes each at a different distance from the hub that communicates with the hub via a satellite, said hub comprising:

a processor configured to form a first plurality of symbols in a frame for reception by a first user node in the plurality of user nodes using a first modulation and a first forward error correction, said processor also being configured to form a second plurality of symbols in the frame for reception by a second user node in the plurality of user nodes using a second modulation and a second forward error correction; and

a transmitter configured to transmit said frame to said first user node and said second user node.

14. The hub of claim 13, wherein a bit error rate of the second symbols in a fading environmental condition is lower than a bit error rate of the first symbols in a fading environmental condition.

15. The hub of claim 13, wherein a degree of constellation rotation for the first symbols is equal to a degree of constellation rotation for the second symbols.

16. The hub of claim 15, wherein a number of modulated symbols in the first forward error correction is equal to a number of modulated symbols in the second forward error correction.

17. The hub of claim 16, wherein said processor is further configured to select a size of a communication protocol link layer data packet for transmitting the first plurality of symbols in the frame from the hub to the first user node in the plurality of user nodes,

wherein the size of the communication protocol link layer data packet does not depend on the number of modulated symbols in the first forward error correction.

18. The hub of claim 13, wherein the first modulation comprises a Quadrature Phase Shift Keying and the second modulation comprises a Bi-Phase Shift Keying.

19. A synchronous communication network comprising:

a hub;

a plurality of user nodes; and

a satellite transponder configured to be disposed on a satellite and configured to convey radio frequency signals between said hub and said plurality of user nodes, said hub comprising

means for transmitting a first plurality of symbols in a frame to a first user node in the plurality of user nodes using a first modulation and a first forward error correction; and

means for transmitting a second plurality of symbols in the frame to a second user node in the plurality of user nodes using a second modulation and a second forward error correction.

20. A hub in a synchronous communication network that includes a plurality of user nodes each at a different distance from the hub that communicates with the hub via a satellite, said hub comprising:

means for forming a first plurality of symbols in a frame for reception by a first user node in the plurality of user nodes using a first modulation and a first forward error correction;

means for forming a second plurality of symbols in the frame for reception by a second user node in the plurality of user nodes using a second modulation and a second forward error correction; and

means for transmitting said frame to said first user node and said second user node.